

SAFETY OUTCOMES ASSOCIATED WITH NEW EMPLOYEE CLASSIFICATION:  
THE IMPACT OF EXPECTATIONS AND EXPERIENCE

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JESSICA DRYSDALE

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PRIMARY SUPERVISOR CHRIS BURT

SECONDARY SUPERVISOR SIMON KEMP

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I would like to thank everyone who helped and supported me along the way.

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## ABSTRACT

Health and safety in New Zealand is an important issue in many aspects of organisational functioning, the intention of this research is to contribute to this field. This research focuses on new employees, and how their different experiences and safety expectations may lead to various safety outcomes. This study analysed 5 hypotheses to extract evidence to support differences between 4 new employee types. These employee types are classified as school leavers, career transition, career focused and occupational focused, which are predicted to differ in terms of previous workplace experience and safety expectations. The hypotheses focused on 5 important outcome variables. These were; speed of familiarization, perceived job risk and safety risk, met safety expectations, accident/injury frequency and safety communication frequency which were predicted to vary across the different new employee groups. Results showed partial support for hypotheses involving speed of familiarisation, met safety expectations and safety communication frequency. No considerable support was found for perceived job risk, safety risk and accident/injury frequency. Implications for organisations and induction processes are included in the discussion.

## INTRODUCTION

The introduction begins by discussing accidents statistics from the New Zealand perspective. This is followed by a brief discussion on causes of occupational injuries which then leads into research on new employees and how they often show high accident rates. Four types of new employee are introduced next, which are distinguished using workplace experience and safety expectations. Workplace experience and safety expectations are both defined and the importance of these for new employee types is discussed. The research is then introduced. Subsequently, five outcome variables predicted to be differentially associated with these types of new employee are presented which are linked to the hypotheses this research examined.

### **Safety in NZ Workplaces**

Workplace health and safety may seem onerous to some when it comes to their job, but those who have experienced or witnessed an event leaving someone injured or worse – dead, will know that safety guidelines are more than just a ‘nuisance’, as some people claim. WorkSafe NZ is a government organisation who promote, enforce and educate safer workplace practises to prevent injury and death. Between 2011 and 2016, they reported between 43 and 57 workplace fatalities in New Zealand, per year. A consideration of fatalities per industry between 2011 and 2016, shows that the agriculture industry had the highest fatalities (113), with construction (32) and the forestry industry (27), the next most dangerous. WorkSafe also reported statistics for focus areas within industries where fatalities have most frequently occurred. For example, within agriculture, a large number of fatalities were due to quadbike accidents.

Reflecting on WorkSafe NZ statistics concerning notifiable injuries or illness by industry (over 7 months in 2016), construction had the highest number of reported cases

(415), followed by manufacturing (401), then education and training (256). Similar statistics were reported in this timeframe, but for notifiable incidents. Again, construction had the highest number of reported incidents (391), manufacturing had the next highest number (112), followed by transport, postal and warehousing (90). This shows that injuries and fatalities are still occurring across a wide sector of New Zealand workplaces, even though New Zealand has comprehensive safety laws (e.g., Health and Safety Work Act 2015), and supporting organisations, such as Worksafe, present.

Statistics NZ also reported similar findings concerning injuries and accidents, to those reported by WorkSafe. In 2015, they reported 110 workplace injury claims, for every 1,000 full time employees. Workers aged from 15 to 24 years, and 65 years and over, had the highest injury rates. The overall accident trend, from 2012 to 2015, found a slight increase in injury rates each year. These statistics include a range of severity of outcomes, and found different rates of injury across different industries. New Zealand accident statistics highlight that unacceptable levels of workplace injuries and fatalities are still occurring.

These statistics reported by Worksafe and Statistics NZ, concerning injuries and fatalities, demonstrate that safety in workplaces can still be improved to minimise incidents occurring. But before developments can be made, identification of areas that need improving is necessary, this may be done by reviewing underlying causes of historic incidents. This discussion highlights possible underlying variables contributing to these workplace injuries. Causes and underlying factors reported in literature associated with adverse safety incidents, such as age and industry, are discussed next. When considering possible causes of safety incidents, usually more than a single factor is linked as a contributing variable, therefore it is important not to narrow in on a single factor.

### ***Causes of Occupational Injuries***

Dejoy (1990) discussed accident causation and how human error is a common focus when trying to minimise incidents in the workplace. In Ramsey's (1987) human factors accident sequence model, he suggested four stages of accident causation: hazard exposure, hazard perception, hazard cognition, decision to avoid, and ability to avoid. Stages in this accident causation model reflect human behaviour and how this can be an underlying factor when it comes to accident causation if individuals do not recognise, think, decide and act to avoid an unsafe situation. Although these are all important stages when it comes to individual behaviour, the fact that employees are exposed to hazards initially highlights that the behaviour of the employee is not the only factor involved. If we consider other research concerning accident causation, there are many other possible causes for occupational injuries.

In a study by Leigh (1986), it was found that job characteristics such as length of time working, working conditions and overtime, are better predictors of occupational injuries compared to personal characteristics, such as age and education. This shows support for multiple and various causes when it comes to occupational injuries, and the importance of considering these when analysing safety incidents or predicting high risk areas in a workplace.

This brief discussion demonstrates shows how multiple factors can lead to an accident. Again, these factors (leading up to a safety incident) may include the work environment, work demands, individual behaviour and various other aspects that literature has examined. But if a step back is taken to examine employees upon recruitment, new employees, this may provide more information on why incidents occur. Therefore, the next section discusses new employees and accident rates.



*New Employee Accident Rates*

An area in workplace accident research that has had some attention is injury rates of new employees (e.g., Haller, 2009; Groves, Kecojevice & Komljenovic, 2007; Tadesse & Israel, 2016). For a useful review see Burt (2015). An example of this is research by Haller et al. (2009), who found that new employees had higher levels of undesirable events in the first month of tenure, which then decreased as their tenure increased. This was a general trend found by medical practitioners when they had new employees start employment. The first month of tenure was found to be a risky period compared to the rest of the year when new employees were no longer new trainees. Groves, Kecojevic & Komljenovic (2007) found that employees with less than 5 years of experience in the mining industry had more incidents in the workplace compared to those who had more than 5 years of experience. They suggest that this is mainly due to equipment related injuries, and that awareness should be increased as well as improving prioritization of problem areas in mining environments. Therefore, amongst other factors these studies both generally suggest that longer tenure in different industries resulted in fewer adverse safety incidents.

On the other hand, Tadesse and Israel (2016) found in their study that construction employees who had worked for less than 2 years, had lower injury rates than those who had worked for more than 2 years, suggesting that these longer tenure employees may have developed a false consciousness for safety. This false consciousness for safety was explained to describe employees who had worked for longer, therefore are less likely to obey safety safeguards and use protective equipment due to them becoming very familiar with their work environment. These conflicting results both examine early employee tenure and accident outcomes, but the time frame and measurement of work experience in these studies differ, not to mention, they do not take into consideration previous work experience before employment

in their current job. This demonstrates how conclusions in literature may differ due to underlying measurement issues or from the use of different predictors.

According to Rashid and Jabar (2016) when considering the use of predictors, some may be irrelevant to the accuracy of the prediction and some can be very useful and efficient in the prediction process. Therefore, using more relevant predictors can lead to more accurate and generalizable results. Thus, when it comes to workplace safety and accident causation, using more than a single causal factor as a predictor may help improve diagnosis accuracy of causes of workplace safety incidents. When observing accident rates of new employees, considering more than their job tenure and classifying them upon induction may help target these individuals and determine if there are more reasons as to why this conflicting information between studies on new employee injury rates is present.

Another example of new employee accident research is conducted by Heath (1991) who identified causal factors associated with accidents in organisations. These were; age, length of time working in a job, size of the organisation, type of work conducted in the organisation and the use of hazardous substances. Heath suggested that examining and targeting these areas can help lower accident rates after emphasising these concluding findings that new employees had higher accident rates. Therefore, when employers assess and train new employees then decide which new employees receive priority of training over others, focusing on the type of new employee and their experience and safety expectations can provide vital information for specificity of training.

Rowlett, Amara, Schaefer and Jenks (2015) discussed how new employee work related accidents can be the result of a combination of four factors: inexperience in new job tasks, lack of familiarity with new equipment and tools, being new to the work environment, and a limited understanding of how it works. It was also suggested that new employees may just try to 'get the job done' to create a good first impression, therefore they may put

themselves at risk without considering the safety implications to impress their workmates, which may involve putting themselves in danger. They suggested using a program that identifies new employees to other employees and assigns them to a senior employee for 6 months to help ensure: safety procedure participation, that they understand how to keep their work environment hazard free, how to communicate about hazards and how to report near misses, how to use equipment safely, and the use of personal protection equipment. This process also involves documentation and follow-up reports of participation in this program to ensure new employees will be reminded of safety in the workplace. However, if all new employees went through this rigorous process (considering new employee are not all equal, ranging from individuals who just left high school, to experienced employees who have been working in a similar job for many years but just transitioned to a new organisation) this may be very tedious and turn people against being safe. As discussed further below, classifying employees upon induction may avoid this and help target those who would benefit from intensive induction. That is not to say that all new employees should not receive safety induction and guidance during early tenure. Rather, that for some new employees this may be particularly important. Therefore, classifications from Burt (2015) are presented next which define four types of new employee by considering their work experience and safety expectations:

- School leavers have the least work experience as this is their first full time job after high school, or university, thus their safety expectations are assumed to be the least accurate.
- Career transition employees are classified as having some work experience, but in a different job or industry to the new job they are applying for. The prediction here is that they have slightly more realistic safety expectations than school leavers, as they have worked before. For example, an individual

may have previously worked in a retail store serving customers, but they are now going to work as a farmer on a farm.

- Occupational focused employees have worked in the same job before but in a different industry. Therefore, safety expectations are expected to be more realistic when it comes to the job, but as for the industry these safety expectations may be limited. For example, an individual may have previously worked full-time as a receptionist for meat works, then transitioned into another receptionist job in a law firm.
- The most realistic safety expectations concerning job and industry risks and health and safety, are associated with career focused employees. These employees have worked in the same job and industry before, but have transferred from a different organization. For example, an individual may have worked full-time as a pharmacist in a pharmacy but transitioned to work for another pharmaceutical organization.

Burt (2015) summarises that safety expectations are built on the foundations of experience. From these definitions, it is seen how types of new employee may differ in terms of their safety experience and expectations when entering a new job and industry. Given there are different types of new employee – it might be useful to ask how strategies to improve safety may differ for employees with different previous workplace safety experience and expectations about safety. Some employees, moving from one job to a similar job, may already be well educated around safety, whereas new employees who have not had a full-time job may need more guidance. Thus, determining what type of new employee job applicants are, may help identify the specific safety training and induction needs which should be provided for them to safely enter their new organisation. To provide more information on this

the defining variables, experience and safety expectations, are expanded on in the following section.

### ***Experience***

As part of understanding why new employee types differ, it is important to consider the meaning of experience. Organizations need to clearly understand issues with the classification of experience if they are to classify new employees and direct them into appropriate induction programmes. This is expanded on below.

O'Neill et al. (2010) suggested how memory and learning methods are important for people to adjust their behaviors to various environments, using their prior experience. Memories can diminish but overtime these can solidify and resist the intrusion of interference. Therefore, the time associated with experience is important. Argote and Miron-Spektor (2011) described how organisational learning and knowledge gained, can depend on the context of the knowledge gained in an environment. They also described how knowledge is created from direct experience which can then become new knowledge created or transferred, this then may become knowledge retained. Therefore, knowledge can vary from past experiences which may have implications for the individual's behaviour, attitude and expectations. This agrees with research suggesting that experience is more complex than just a time factor.

Job experience is commonly used as a predictor of job performance (Schmidt, Hunter & Outerbridge, 1986; McDaniel, Schmidt & Hunter, 1988; Rodrigues & Rebelo, 2009). Uppal, Mishra and Vohra (2014) noted the conflicting research on this relationship between prior related work experience and job performance. Keeping this in mind, they found that there was a positive relationship between these two variables with a moderating effect of personality factors. Although this is based around job performance, which can indicate safety behaviour performance, the use of similar prior work experience and this positive relationship

with performance is important. Keyserling (1983) reviewed employee work experience using different tenure times, comparing this to the number of occupational injuries sustained. A U-shaped relationship was found for the number of injuries. This demonstrates the complexity of the relationship between experience and accident rates of employees upon employment or the limitations of predicting from work experience and using tenure as an indicator of work experience. Criticisms towards predicting from job experience point in both directions, but literature generally suggests that work experience is an important variable, that is commonly classified using time and job tenure.

More evidence of this is provided by Quíñones, Ford and Teachout (1995) who also mention how work experience is a common predictor for job performance, but is usually defined in different ways across research. Their study aimed to enhance measurement and to understand the meaning of work experience. They found that different work experience measures gathered different information concerning job experience, and that just using time as a measure is a poor predictor of actual work experience. Tesluk and Jacobs (1998) described work experience as having qualitative and quantitative factors, which have different variables within each that interact and change as time progresses. They also mentioned how experience can depend on the context it is being referred to as well as individual characteristics.

A very important definition from Burt (2015) is discussed next which primarily relates to this research and the new employee type definitions. This definition involves variability and similarity in employees work experience. Variability is described as involving the task variation or a variety of tasks that individuals complete in a job. For example, consider a receptionist job. To understand how variability can differ, two opposite extremes will be explained. A receptionist job with very little variability may involve taking client calls and writing appointments into a planner, therefore an individual may have 5 years of

experience in this job with very little task variety. If this is compared to another receptionist with 5 years of experience but their job involved several main tasks they would have more variability in their work experience. For example, this receptionist job may have involved talking client calls, writing appointments into a planner, organising further follow up appointments, coordinating manager schedules, moving to different locations and working out of different facilities. Therefore, more variability in job experience may mean that individuals have more understanding and experience in numerous dimensions compared to a very simple job with few tasks.

Similarity of experience may differ due to various magnitudes of variation between jobs. To explain this further an example using a receptionist job will again be used. A receptionist job may be advertised that involves taking client calls, planning, organising follow up appointments, coordinating schedules and working with different equipment in different offices. Following the previous receptionist examples, the first receptionist applying for the job may have similarity from their old job to the advertised job in two dimensions, talking client calls and recording appointments. The second receptionist applying for the job has nearly all the same components between their old job and the advertised job. Therefore, the similarity in experience when looking for someone in an advertised job is greater for the employee who has the most similar job tasks. These may also be contextual factors, but overall, they limit generalisation of experience from one job to another job. Similarity and variability in experience highlight how more than just job tenure is important when looking at previous work experience. Although total cumulative tenure may indicate employee's duration of exposure to work, this does not mean this is the same gained experience for all employees as other factors, such as variability and similarity are important for distinguishing experience.

Therefore, the four new employee types (school leaver, career transition, occupational focused and career focused) are predicted to differ due to the individual's different previous work experience, but as demonstrated from this discussion this is more complex than a simple time or tenure measurement. New employee experience can range from no previous workplace experience if individuals are only starting a new job for the first time (e.g., school leaver), or very little workplace experience due to them only working in a part time job while they studied or were engaged in parenthood etc. Yet other individuals may have had work experience in a job, therefore, they have some understanding of workplace behaviour, but this experience may have been in a different job or industry so the similarity and variability may be greater than for an individual who has not worked at all, but minimal compared to someone who has working in the same job before. Employees have greater similarity and variability in experience when their previous job relates or is the same as their new job. Individuals who are new employees starting the same job, in the same industry, and only transferring organisations or companies, are predicted to have the most workplace experience. This section explained how new employee types may differ in terms of experience, the next section completes the classification definitions by discussing how safety expectations of these new employee types may differ.

### ***Safety Expectations***

Burt (2015) mentions how relationships between new employee accidents and tenure, age and turnover have been examined, but little research has focused on the type of new employee and how their previous experience and safety expectations relate to accident rates. Therefore, it is important to look at safety expectations of new employee types and how they may differ, just as experience has been discussed to differ.



According to Moore, Grunberg and Krause (2015) expectations are the beliefs one holds, regarding what they think the company will provide for them. They also suggested how expectations can differ due to generational shifts which can have implications for individuals' psychological contract. Therefore, the expectation individuals hold, can range from being one hundred percent accurate to false, which can have implications for new employee safety behaviour in the workplace. Research from Burt, Williams and Wallis (2012) examined new employees starting full-time work for the first time. An interest here was to determine how new employee safety expectations compared to those who had worked before. Findings suggested that school leavers are likely to have less accurate safety expectations compared to the reality of the organisations safety aspects. This is an important finding, especially for safety, as new employee's behaviour may be dictated from their safety expectations, which can be hazardous if, for example, new employees expect hazards to be pointed out to them.

Therefore, it is predicted that employees beginning full-time work for the first time (school leavers) will have the least accurate expectations concerning workplace safety as they have not had much experience to base the formation of these safety expectations on. The next group that is expected to have slightly more realistic safety expectations is career transition employees, as they have worked, therefore, have some experience with safety in the workplace. Occupational focused employees have worked in the same job but in a different industry, therefore, they are again predicted to have more realistic safety expectations compared to the previous two groups mentioned, due to similar work experience in the same job. Career focused employees are predicted to have the most accurate safety expectations due to their workplace experience being both in the same job and industry, therefore when they began working in their job they would have understood and been familiar with more of the safety procedures in the industry and in their job role.

***This Research***

To understand how this research may be of help, the use of an organisational accident investigation model may be used as an analogy. These models look at different levels of accident causation, from the top they look at the broader implications or causal factors, like organisational procedures for safety. They then direct investigation down to the individual employee and their actions. This is to find out the underlying causes or cause of an accident or incident. In this research, if we look at recruitment as the broad or top of the model, this can help introduce more accurate predictors into organisational recruitment processes, this can then direct investigation into identification of new employees who need more training upon induction, targeting individuals and their behaviour. Overall, this research aimed to contribute to safer workplace performance, avoiding generalised induction training among all new employees and reducing accidents, therefore, the use of these accident investigation models.

Consequently, the focus of this research involved new employees and their classification upon induction. If this occurs at recruitment, this will give organisational induction programs and existing employees an idea of the level of experience new employees have had and the safety expectations they may hold before they begin working and risk putting themselves in danger. This is where this research fits in as it can help fill this gap between selection of new employees and the necessary training for them upon induction.

***Important Outcome Variables Influenced by New Employee Type***

Now that new employee types are classified in terms of experience and safety expectations, the variables predicted to differ between the four types of new employee are discussed next. These are some outcome variables suggested to underlie accident causation for new employees. To briefly introduce what will be examined in the following paragraphs,

these variables can be related to experience using the following predictions:

- The speed at which employees become familiar with their new job will increase with more experience.
- Perceived riskiness of job and safety will be more higher and more accurate for those with more experience.
- Manager and co-worker safety expectations that employees have when starting a new job will be more accurate with more experience.
- There will be less accidents and/or injuries in early tenure for employees with more experience.
- With more experience, more safety questions will be asked and communicated.

This research tested the above predictions and compared the four types of new employee across these outcome variables by looking at speed of familiarization, perceived job risk and safety risk, safety expectations, accident/injury frequency and safety communication frequency. These five dependent variables are expanded on and discussed below and the hypotheses are presented.

#### *Speed of Familiarization*

Speed of familiarization is defined as the number of weeks it took new employees to become familiar with certain safety aspects of their job. Madden and Howley (2004) researched experience and transfer through experimentation. They found that knowledge from one experience can be transferred to assist in a similar, more complex situation. This suggests, if employees have previous workplace experience, this knowledge or any skills learned, may transfer over to a new job. When considering job performance, Dokko, Wilk and Rothbard (2009) found that previous work experience can have both negative and

positive effects. Positive effects, with the transferal of skill and knowledge, but negative if individuals are not adaptable to a new workplace. They highlighted, that with prior work related experience, the more similar this experience is from a former job, suggests greater common knowledge and skills transferred. Therefore, the speed of familiarisation will be greater when the transition is less of a change, e.g. for industry, organisation and job. Pinder and Schroeder (1987) found that when transferring jobs, the more different and difficult the new job is, the longer it can take for employees to become capable in these roles. Therefore, the more similarity and variation in this previous work experience, may influence the speed of familiarisation depending on the classification of new employee. Thus, the prediction was:

*Hypothesis 1:* Speed of familiarisation will be faster for career focused employees, followed by occupational focused, then career transition employees. School leavers will take the longest to become familiar in their new job.

#### *Perceived Job and Safety Risk*

Ivensky (2016) described risk perception as recognition and evaluation of hazards, and discussed how inaccurate judgement of hazards can lead to safety incidents. He also suggested how individual perceptions can differ based on personality, experience, knowledge and other criteria. Ahmadi Marzaleh et al. (2016) found differences in risk perception in: demographic variables, job variables, education, work experience and safety training time during employment in oil refinery employees. Perko et al. (2015) studied risk perception involving exposure to radiological risks. Four groups of participants with different radiological risk experience were involved. These were: general population with experience, general population without experience, new employees, and professionally exposed people. They concluded that these four groups of participants had different risk perceptions of radiological risk, suggesting that this was due to those with more experience having a greater

understanding, therefore more accurate risk perception. Burt, Williams and Wallis (2012) found that school leavers tended to underestimate the safety risk thus, if new employees with more experience perceive their job as risky (an accurate perception), they may be involved in less accidents compared to school leavers or those with less experience.

Therefore, it is implied from this previous research that perceived job risk and safety risk may differ for new employee types. Due to school leavers having the least amount of work experience, and assuming they will have the least understanding about work environments, they will be more likely to underestimate the risk in their work environment compared to more experienced new employees who have more accurate perceptions of risk. Career focused employees, who have the greatest understanding of safety risks in their work environment, will have higher, more accurate safety risk perception. Thus, the prediction is:

*Hypothesis 2:* Perceived job risk and safety risk will be lower and less accurate for school leavers, followed by career transition and occupational focused employees. Career focused employees will have the highest and most accurate risk perception of their job and safety.

#### *Met Safety Expectations*

Buckley et al. (1998) found that realistic job previews and expectation lowering processes have significant effects on new employees entering workplaces. Thus, previous experience may help form more accurate job safety expectations. Fernandez, Castilla and Moore (2000) found that experienced employees can have values and job expectations specific to their occupation which can help with socialization. This again can have implications for safety behaviour as those employees transferring jobs that have more commonalities, have more realistic expectations when starting their new job. Especially if employees are coming from a similar role and in the same industry, manager and co-worker

expectations can be much more accurate. Rynes, Orlitzky and Bretz (1997) study suggested that during recruitment, experienced workers are valued more highly than graduates on such things as understanding business, competitive knowledge, realistic expectations and other skills. Thus, this assumption that these more experienced employees have more realistic expectations is tested in this study, comparing the four new employee groups and their met expectations. Thus, the prediction is:

*Hypothesis 3: Met safety expectations will be higher for career focused employees followed by occupational focused, then career transition employees. School leavers will have the least amount of expectations met.*

#### *Safety Communication Frequency*

Flin and Yule (2004) discussed how safety communication is an important aspect of workplace safety. This communication must be from both leaders and subordinate employees who can help reduce accidents and create a safer environment. Siemsen et al. (2009) found that psychological safety of employees can increase as communication frequency increases in the workplace which is also involved with confidence in one's own knowledge. Therefore, when considering the importance of communication regarding workplace safety and the work experience of new employees, the hypothesis is that new employee's with very little work experience will be less likely to ask safety questions as their knowledge of workplace safety is limited therefore they do not communicate it as much. More experienced workers who have had more safety experience, are hypothesised to communicate more questions, due to their knowledge of such processes being greater. The assumption behind this also includes the reasoning that the more inexperienced new employees are the more they will underestimate risk – thus have no reason to communicate about safety. Thus hypothesis 4 was:

*Hypothesis 4:* School leavers will communicate the least about safety, followed by career transition, then occupational focused employees. Career focused employees communicating the most about safety.

#### *Accident/Injury Frequency*

Butani (1988) found in the mining industry, that injury rates were more varied when they were associated with experience compared to age. Results suggested that less than 12 months of tenure put employees (compared to the average) in the high-risk category, whereas employees with 15 plus years of experience were in the low-risk category. Bennett and Passmore (1984) also found that more experienced workers had a lower rate of fatal injuries compared to less experienced workers. This was also the case with age, possibly due to this high correlation between age and experience. Cellier, Eyrolle and Bertrand (1995) found, in a study involving age and work experience, that older and younger employees with low experience had more accidents as well as more serious accidents in the workplace.

Therefore, accident and injury frequency was theorized to be associated with new employee types and the other predictor variables. Accident and injury rates were predicted to be higher for those who take longer to familiarise, higher for those who have more inaccurate risk perceptions, higher for those with less met safety expectations and higher for those who communicate less about safety. Thus, the hypothesis was formed:

*Hypothesis 5:* School leavers have a higher accident/injury frequency, followed by career transition, then occupational focused employees. Career focused employees will have the least number of incidents.

The new employee type groups examined in this research were expected to vary naturally in terms of age, total number of organisations employed in, total number of job roles held and total job tenure. This was expected due to those who have more experience

were more likely to be older and have worked for longer etc. The analysis examined these variables also, to support the group classification process.

### ***Summary***

The research examined new employee types and aimed to determine if there were differences between these groups using five outcome variables: speed of familiarization, perceived job risk and safety risk, met safety expectations, safety communication frequency and accident/injury frequency. This research can help employers understand how hiring new employees may differ in terms of how much safety experience they may have and the accuracy of their expectations depending on their previous work history. The importance of the classification of experience (including more than tenure) and considering variability and similarity between these past and present jobs can also be reflected by this research. Most importantly this information can also inform and assist the design of induction processes, making selection and training levels more specific, increasing the efficiency of this training of new employees and encouraging the proliferation of workplace safety.

## **METHOD**

### ***Sampling and Participants***

Organizations were contacted via an email which briefly outlined the purpose of the research (see Appendix B). The organizations were asked if they would like to give employees the opportunity to participate in the research. If this was accepted, the number of possible participants was then discussed and surveys were organized and sent out. There was also an opportunity for the survey to be forwarded in an email attachment which included the information sheet, consent form and a copy of the survey. 35 organizations were contacted throughout New Zealand by email. 20 Organizations were also approached by phone, the



conversation explained what was contained in the email (Appendix B) and email addresses were gathered so the contact could view the survey. One organization agreed and requested 20 copies of the survey, and two other organizations both requested 50 surveys. A further 180 surveys were distributed haphazardly throughout New Zealand, this was done by handing out surveys to personal contacts or approaching people out of their workplaces.

Participants were limited to full-time employees and were to classify themselves as one of the following types of new employee when starting their current job: school leaver, career transition, occupational focused or career focused. Contract and temporary workers were not included in this research which was mentioned in the information sheet.

This was a quasi-experimental design with haphazard sampling. Of the 300 surveys distributed, between June 1<sup>st</sup>, 2017 and November 10<sup>th</sup> 2017, the sample response rate was 41% with 123 surveys complete and returned. Thus, the sample size was 123 full time employees working in New Zealand. 54 industries that participants currently worked in were indicated in this sample. The most common industries were: Meat Works, New Zealand Defence Force, Pharmacy, Hospitality, New Zealand Air Force, Medical/Healthcare and Engineering. 87 different job titles were indicated across the 123 participants. The most common job titles were: Medic, Cleaner, Pharmacist, Customer Service Representative, Pharmacy Technician and Meat Processor. Participant age ranged from 17 to 81 years old. School leavers had an average age of 26, career transition 36, occupational focused 46 and career focused 43. The overall average age was 37 years old.

### ***Materials***

500 surveys were printed in hard copy (see Appendix A). The following section explains what was included in the survey. Five versions of this survey were printed (100 of each) which alternated the ordering of the dependent measures (5 scales) to minimize common method variance before the data was collected. This was to help prevent correlations

that may have been made or increased due to the data collection method (Craighead et al., 2011).

### *Information Sheet*

The first page of the survey presented the information sheet (Appendix A, page 1). This included a brief introduction to the research, what participation preordained, a statement explaining that the research was confidential and optional, and relevant information to uphold ethical guidelines.

### *Consent Form*

The consent form was on the second page of the survey (Appendix A). This ensured participants understood what completing this survey meant and confirmed that they were confident with protection of their responses. Important contact information for the researcher team was included as per ethical recommendations. Participants were also able to indicate if they wanted to participate in the prize draw and receive a summary of results. Instructions for returning the survey were included after participants gave their signed consent and an optional email address, if they wanted to be contacted to receive summary results or if they won the prize draw.

### *Instruction Page*

The next page of the survey had a brief introduction and some instructions for completing the questions (Appendix A). The instructions asked participants to read questions carefully and give their first reaction to answers, answer all the questions, be honest and return the survey in the pre-paid envelope.

### *General Questions*

Next was the *general questions* section (Appendix A). Questions 1 to 8 asked for; age, current job tenure, total number of organisations employed in, total number of job roles, total job tenure, current job title, current employment industry and how many co-worker's

employees currently worked with. This included current job information and previous work history. Most importantly, in this section was question 9 which consisted of a self-select classification question to indicate new employee type, using a forced-choice five option framework. The options participants could select were school leaver, career transition, occupational focused, career focused, and other. An explanation for each of these options was included as well as an example of each classification in parentheses. These were:

- ❖ **School or University leaver:** Worked in a part time job during school or University but not in a full time job (or no job), therefore very little or no workplace experience.
- ❖ **Career Transition:** Previous work experience in a full time job, but working for a different industry and in a different job. (e.g. Previously worked in a retail store serving customers, now working as a farmer on a farm.)
- ❖ **Occupational Focused:** Previous work experience in the same job, but in a different industry. (e.g. Worked in a full time job previously as a receptionist for meat works and then transitioned to another receptionist job in a law firm.)
- ❖ **Career Focused:** Previous work experience in the same job and industry, but for a different organisation/company. (e.g. Worked full time as a Pharmacist in a Pharmacy but transitioned to work for another Pharmaceutical organisation.)
- ❖ **Other,** please specify: \_\_\_\_\_

### *Dependent Measures*

After the *general questions section*, the dependent variables (speed of familiarization, perceived job risk and safety risk, met safety expectations, accident/injury frequency and safety communication frequency) were measured using 5 scales.

As for the response format, speed of familiarization was measured by getting participants to respond by entering the number of weeks it took them to become familiar in a particular area. Accident/injury scales required participants to enter the frequency of events

for each aspect. The safety communication frequency and perceived job risk and safety risk scales both involved a 5 point Likert scale where; 1 = strongly disagree and 5 = strongly agree. Met safety expectations was the only scale measured with a 7 point Likert scale where 1 = expectation not met and 7 = expectation completely met. This scale also had an option for 'no expectation' before employment. Scale scores were computed for each scale by determining the average or sum. For accident/injury frequency the total was used, for speed of familiarization, perceived job risk and safety risk, met safety expectations and safety communication frequency, averages were computed. These scales are presented and discussed further in the following section.

#### *Speed of Familiarization*

The speed of familiarization scale was adapted from a measure developed Burt and Stevenson (2009). The 4-item scale was created for their research to measure aspects of familiarity. Adaption of this scale for this research involved changing the response format to capture the speed of familiarization. For example, the item "*I am familiar with the specific characteristics of the equipment which my crew uses*", this was adapted to '*It took me \_\_\_\_\_ weeks to become familiar with the equipment which my job uses*'. A second example is, "*I am familiar with the specific operational procedures which my crew uses*", was adapted to, '*It took me \_\_\_\_\_ weeks to become familiar with the specific workplace procedures which I need to follow*'. The instructions asked participants to indicate how long it took them to become familiar in terms of their current job (for each item). This data indicated participants speed of familiarization, the longer it took for employees to become familiar in the target areas, the slower the speed of familiarization. This was determined by adding these scores together then dividing by four to compute the average.

*Perceived Job Risk and Safety Risk*

Perceived job risk and safety risk was measured using several questions. Participants were asked to indicate the general safety risk associated with their current job on a 100-point scale. The scale end points were tagged: 0 = not at all risky, to 100 = extremely risky. This was to determine participant's safety risk perception associate with their current job. Next, the perceived job risk scale, adapted from Hayes et al. (1998) Work Safety Scale, is a 10-item scale, which was used to assess job risk perception. The scale consisted of 10 terms which the participant rated as to their applicability for their current job. This scale was also used by Burt, Banks and Williams (2014) obtaining a coefficient alpha of .82. Examples of the scale items include: hazardous, dangerous, risky. Scale items were by rated participants using a 5 item Likert scale, 1 = strongly disagree and 5 = strongly agree. One of these 10 items "safe" was reverse coded. Higher scores on this scale indicated higher perceived job risk which was determined by summing all the ratings then dividing by 10. The Cronbach alpha reliability coefficient for this scale was 0.89.

*Met Safety Expectations*

The met safety expectations measure was adapted from Chmiel's (2005) Management Safety Climate scale, and Walker and Hutton's (2006) scale, which looked at management's dealings with safety. These were adapted to look at management safety expectations. Co-worker expectations were adapted from Mueller et al.'s (1999) co-worker commitment to safety scales, and Burt et al.'s (1998) CARE scale. Some of these are also used in Burt, Williams and Wallis (2012) expectations scale which were adapted for this survey also. Examples of two of these are; *Workers will remind each other of the need to follow safety regulations; Management will be quick to respond to the safety concerns of employees.* The instructions asked participants to indicate the extent to which these expectations (held before they started their current job) were met in their current job. Responses were indicated on a 7-

point Likert scale, 1 = not met, and 7 = completely met. There was also a box where participants could indicate if they had no expectation at all for the specific item, this was treated a zero when summing the scale score. Of the 25 items included in this scale, 13 involved management safety expectations and 12 involved co-worker safety expectations. An average score was computed for each of the manager and co-worker expectations. The higher the score, the more expectations were met, indicating more realistic pre-start safety expectations. The Cronbach alpha reliability coefficient for these scales was 0.94 for management expectations and 0.94 for co-worker expectations.

#### *Accident/Injury Frequency*

The accident/injury frequency measure was developed to get information on the number of minor injuries, near miss incidents and lost time injuries employees had experienced in their current job. The main headed question was; *The next three questions refer only to accidents or incidents you have been involved in at work, **in your current job.*** *For the following please indicate:* The following options then followed: *How many near miss incidents or accidents have you had, that could have resulted in an injury to yourself? How many minor injuries have you had, that have required medical attention (e.g. first aid treatment or doctors visit)? How many injuries have you had, that required you to take time off work?* These numbers were totalled for the analysis. This gave an indication of the accident and injury frequency of employees in their current job.

#### *Safety Communication Frequency*

The safety communication frequency scale was developed for this study to measure the frequency of asking safety related questions. Two examples of this are; *I discuss concerns about safety issues with management; I promote the safety program within the organization.* The scale included 8 items, and responses were indicated using a 5-point Likert scale, 1 = strongly disagree and 5= strongly agree. The scale was scored by averaging the ratings,

higher scores indicating a higher frequency of safety communication. The Cronbach alpha reliability coefficient for this scale was 0.88.

### ***Procedure***

Surveys were distributed in hard copy to organizations or directly to participants for them to complete. The instruction sheet indicated the survey would take approximately 20 minutes. Participants could indicate if they wished to receive a summary of results and if they wanted to participate in the prize draw on the consent form. Envelopes were provided with the surveys; the return address was already printed on these and postage paid. Once returned, the survey data was transferred into SPSS to prepare for data analysis. The survey hard copies were locked away with the consent forms until the 1<sup>st</sup> of September 2017, which was indicated on the information sheet as the final withdrawal date for participants to remove their data if they no longer wanted to participate in the study. After this date, the consent forms were removed from the surveys. Those who indicated they wanted to take part in the prize draw were processed, which was randomly drawn on the 1<sup>st</sup> of December 2017, and vouchers were sent to the participants. The survey information was then ready for data analysis.

## **RESULTS**

### ***Preparation***

The data was entered into the computer program IBM SPSS (Statistics version 24) for analysis. Data entry was double checked to identify and remove any transfer errors. The responses recorded in the survey were all clear to read so there was no difficulty interpreting data. All surveys were complete. There were no missing data, and items requiring reverse coding were identified and processed appropriately. Variable distributions were examined for outliers. An outlier was defined as more than 3 standard deviations from the variable

mean. Inspection of the distribution identified 16 outliers which were replaced with the variable mean.

### ***Data Analysis***

First, participant information that was expected to differ to support the different new employee type groups was analyzed. This information is presented in Table 1 which included descriptive statistics and ANOVA results. Some of the dependent measures require other variables to be equivalent if meaningful group comparisons are to be made. For example, time to familiarize will be influence by time in the job. Thus, a number of variables where examined to determine if they varied between the groups and thus needed to be controlled for (used as covariates) when the hypotheses were tested. Table 2 presents descriptive statistics and ANOVA results to identify these covariates collected in the data. Table 3 reported the ANCOVA results and descriptive statistics, the means used in this were the covariate adjusted means and standard error for the corresponding dependent variables. The covariates identified and used here were perceived job risk and safety risk, excluding the covariate adjusted mean for perceived job risk, as only safety risk was included as a covariate. Post hoc comparisons were made using Bonferroni adjustments. Distributions were inspected to check sphericity. Levene's test was used to determine heterogeneity of variance. Partial correlations were also run to look further into accident/injury frequency which are presented in Table 4.



Table 1

*Mean, Standard Deviation and ANOVA Results for Age, Total Number of Organizations Employed in, Total Number of Job Roles and Total Job Tenure for each New Employee Type*

	School Leaver	Career Transition	Occupational Focused	Career Focused	Effect Size	F	<i>p</i>
	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )			
Age	26.49 (7.69)	35.85 (11.96)	46.38 (13.05)	42.90 (14.84)	.27	14.306	.000*
Total number of organizations employed in	2.03 (1.33)	3.68 (1.79)	6.90 (3.82)	6.41 (2.63)	.40	25.995	.000*
Total number of job roles	2.33 (1.30)	4.98 (3.44)	7.38 (3.41)	5.94 (4.40)	.21	10.670	.000*
Total job tenure (months)	112.23 (103.29)	213.71 (144.86)	318.00 (182.46)	280.16 (176.18)	.19	9.569	.000*

*Note.* M = Mean. SD = Standard Deviation.

Significance \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Table 1 presents the descriptive statistics for the sample population, this includes the mean and standard deviation for each of the new employee types. The results from ANOVA comparisons of the four groups suggested that differences between new employee types are significantly different which is expected relating to differences in work experience. The averages for all the variables are lowest for school leaver then increase for career transition, then again for career focused, but the highest averages are for occupational focused employees.

Table 2

*Mean, Standard Deviation and ANOVA Results for Tenure in Current Job, Number of Current Co-Workers, Perceived Job Risk and Safety Risk for each New Employee Type*

	School Leaver	Career Transition	Occupational Focused	Career Focused	Effect Size	F	<i>p</i>
	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )			
Tenure in current job (months)	69.43 (50.73)	73.54 (79.09)	49.29 (49.94)	46.24 (40.08)	.04	1.706	.169
Number of current co-workers	23.30 (12.60)	18.45 (14.65)	15.66 (21.60)	16.49 (17.23)	.03	1.240	.298
Perceived Job risk	2.57 (0.72)	2.44 (0.68)	2.22 (0.82)	2.05 (0.79)	.07	2.98	.034*
Safety risk	48.33 (21.02)	47.56 (24.16)	32.38 (24.06)	32.58 (24.46)	.10	4.30	.006**

*Note.* M = Mean. SD = Standard Deviation.

Significance \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Table 2 reports the descriptive statistics and outcome of ANOVA to identify covariates in the data that are used in ANCOVA for the next part of the analysis. Current job tenure and number of co-workers were not significantly different between the groups, but perceived job risk and safety risk were statistically significant. Therefore, these significant variables identified as covariates were used in ANCOVA which is presented for the corresponding variables in Table 3. To clarify why this is necessary, variables such as safety communication, are at least partly dependent on the need for such communication as determined by the job risk level.

Table 3

*Covariate Adjusted Means and Standard Errors for Speed of Familiarization, Manager Expectations, Co-Worker Expectations, Safety Communication Frequency, Perceived Job Risk and Accident/Injury Frequency for each New Employee Type*

	School Leaver	Career Transition	Occupational Focused	Career Focused	Effect Size	F	p
	<i>M</i> ( <i>SE</i> ) <i>N</i> = 30	<i>M</i> ( <i>SE</i> ) <i>N</i> = 41	<i>M</i> ( <i>SE</i> ) <i>N</i> = 21	<i>M</i> ( <i>SE</i> ) <i>N</i> = 31			
Speed of Familiarization (weeks)	6.22 (.71)	3.99 (.61)	4.31 (.85)	3.48 (.70)	.16	4.52	.001**
Manager Expectations	4.13 (.33)	4.22 (.28)	4.42 (.39)	4.48 (.33)	.05	1.21	.308
Co-worker Expectations	4.17 (.32)	4.43 (.27)	4.50 (.38)	4.78 (.31)	.05	1.33	.257
Safety Communication Frequency	3.23 (.13)	3.67 (.11)	3.84 (.16)	3.65 (.13)	.16	4.54	.001**
Perceived Job Risk	2.42 (.10)	2.31 (.09)	2.41 (.12)	2.23 (.10)	.47	26.44	.000***
Accident/Injury Frequency	4.65 (1.21)	2.56 (1.03)	5.21 (1.45)	3.84 (1.20)	.10	2.59	.029*

*Note.* M = Mean. SE = Standard Error. N = Number in sample.  
Significance \*p<.05, \*\*p<.01, \*\*\*p<.001

Table 3 reports the results of the ANCOVA using the covariates perceived job risk and safety risk, which were part of the analysis to support hypotheses 1, 3, 4 and 5. The covariate adjusted mean for the perceived job risk scale only included safety risk, this was to support hypothesis 2. Speed of familiarization, safety communication frequency, perceived job risk and accident/injury frequency showed statistically significant differences between new employee types. In contrast, manager and co-worker expectation scale scores were not significantly different across the groups. Post hoc comparisons were conducted to compare the main effects. The Bonferroni adjustment was used to look at speed of familiarization, safety communication frequency, perceived job risk and accident/injury frequency. Post hoc comparisons for speed of familiarization found a statistically significant difference between school leaver and career focused groups,  $F(7, 115) = 4.52, p = .048$  but no significant differences for other comparisons. Safety communication frequency only had one significant difference from post hoc analyses found between school leaver and occupational focused groups,  $F(7, 115) = 4.54, p = .024$ . Post hoc analysis results showed that there were no significant comparisons for perceived job risk. Accident /injury frequency post hoc comparisons also found no significant differences between groups.

#### *Accident and Injury Frequency Analysis*

The purpose of this final analysis is to determine if the dependent variables are associated with accident and injury frequency. These variables are speed of familiarization, perceived job risk, safety risk, manager expectations, co-worker expectations and safety communication frequency. Partial correlations were calculated, controlling for age, number of organizations employed in, number of job roles held and job tenure. The results of this are presented in Table 4. This analysis was conducted as these variables collectively represent time in employment, in other words, opportunity for an accident to happen. Controlling for

these variables allows the relationship between the dependent variables and accident/injury frequency to be explored. As presented in Table 4, all correlations are positive suggesting that as the causal variables increase so does the number of accidents/injuries. Safety communication frequency, and manager and co-worker safety expectation associations are not significant whereas, speed of familiarization, perceived job risk and safety risk indicate statistically significant associations.

Table 4

*Partial Correlations for Total Accident/Injury Frequency with Speed of Familiarization, Perceived Job Risk, Safety Risk, Manager Expectations, Co-Worker Expectations and Safety Communication Frequency*

	Total Accident/Injury Frequency
Speed of Familiarization (weeks)	.43***
Perceived Job Risk	.24**
Safety Risk	.23**
Manager Expectations	.04
Co-worker Expectations	.09
Safety Communication Frequency	.02

Significance \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

## DISCUSSION

This discussion includes a summary of the research hypotheses presented and the corresponding findings and results. Practical application and implications for these findings are then discussed. Limitations, strengths and future research directions are then presented.

### *Summary of Findings*

The variables; age, number of organizations employed in, number of job roles and job tenure, were all supportive of difference between these new employee types which was

expected, as they were believed to differ naturally due to the nature of the new employee type groups.

### *Speed of Familiarization*

*Hypothesis 1:* Speed of familiarization will be faster for career focused employees, followed by occupational focused, then career transition employees. School leavers will take the longest to become familiar in their new job.

The first hypothesis concerned the speed of familiarization, at which these new employees become familiar with components of their new job. Results do partially support this hypothesis as the results were statistically significant for differences between these four new employee types. But in post hoc analyses only significant differences were found between school leaver and career focused new employee types. School leavers had the longest speed of familiarization, followed by occupational focused employees, then career transition employees. The lowest speed of familiarization was found for career focused employees.

These results may be because new employees, who had never worked before or not in a full-time job (school leavers), will take longer to become familiar to their new work environment, due to their limited experience. Career transition employees may become familiar with their environment slightly faster due to this experience in a full-time job. If this is compared to occupational employees who have worked in the same job before but a different industry, they are expected to have more similar experiences when changing over to a new job, therefore their speed of familiarization is faster, but this is not the case suggested by this research as career transition employees familiarise faster than occupational focused. This unexpected finding may be due to these two employee types being very similar in terms of their experience, therefore their familiarization speed is not significantly different. Speed



of familiarization is fastest for career focused employees which may be due to previously working in a more familiar environment with similar experiences.

The partial support for this hypothesis is consistent with previous research concerning familiarization speed for people, as when previous environments are more comparable, this adaption and transferral of knowledge is usually easier and quicker. This supports Dokko, Wilk and Rothbard's (2009) positive effects of transfer for knowledge and skills, as more similar environments can mean there is less to learn and cognitively process. But this previous research suggested that negative effects may arise if individuals are not adaptable to new workplaces, which may explain why results were slightly unexpected for the career transition and occupational focused employee groups.

These findings can have implications for health and safety concerning new employees. Results suggested that generally, those with less experience will take longer to become familiar in a new environment and may need more guidance and support than more experienced employees. This can avoid the risk of unsafe behaviours which occurring, which can be adverse if less experienced employees are put into a work environment and are assumed to have similar familiarization to other employees who adjusted quickly, but may have had more safety experience. Future research in this area may focus more on the comparison of speed of familiarization when new employees enter a foreign work environment and how this differs between industries, while including a measure for adaptableness.

#### *Perceived Job Risk and Safety Risk*

*Hypothesis 2:* Perceived job risk and safety risk will be lower and less accurate for school leavers, followed by career transition and occupational focused employees.

Career focused employees will have the highest and most accurate risk perception of their job and safety.

The second hypothesis concerned employees perceived job risk and safety risk. This scale had two components which concerned the rated safety risk for an individual's job and their perceived job risk which was measured on a 10-point scale. When safety risk was controlled for, there was a statistically significant difference between new employee types. But in the post hoc analysis no significant differences were found between groups. When considering new employees perceived job risk, the results did not show a clear relationship. School leavers unexpectedly had the highest perceived job risk and career focused had the lowest average as indicated in the results, the remaining groups were in the hypothesised order. Therefore, this hypothesis is very poorly supported by these analyses.

This may be due to those working in a new job for the first time not accurately realising and understanding the safety risk, but those who have worked before and have had some experience, may recognise and comprehend these risks. Those employees who had worked in the same job may understand the safety risks from previous experience, therefore have a more accurate understanding of the risks and do not find them as risky. Career focused employees may not perceive their new job as risky due to an understanding of both the new organisation and job.

Research by Perko et al. (2015), found differences in risk perception for professionally exposed people and people who were not professionals but may or may not have had exposure to radiological risk. This is suggested to be consistent with these research findings, as this trend may be due to those with more experience, knowledge and exposure to risks, having a greater understanding concerning them, therefore have a more accurate perception of their workplace risks.

Implications for health and safety when considering new employees perception of their job risk and safety risk, may be to understand that new employees may have different perceptions of their new job. These perceptions may be un-realistic due to previous

experience; therefore, care should be taken when assuming that an individual's perceptions of safety and risks are accurate. Future research may consider exploring organisations with different safety ratings to provide more information concerning the differences in perceived job risk and safety risk for new employee types.

### *Met Safety Expectations*

*Hypothesis 3:* Met safety expectations will be higher for career focused employees followed by occupational focused, then career transition employees. School leavers will have the least amount of expectations met.

The third hypothesis, involved met safety expectations for both management and co-worker components. The results indicated that there were no statistically significant differences between the new employee types for these groups. But the met safety expectations for both management and co-worker components were highest for career focused employees, followed by occupational focused then career transition, with school leavers having the least met safety expectations. Therefore, these results are partially consistent with the hypothesis.

This scale may have been too complicated to answer accurately as it required participants to recall their prior expectations which may have been hard to recall if they had been working in their current job for a long time, or there may just have been no differences in new employee expectations. But the averages for these met safety expectations were in the predicted order, which may be due to more realistic expectations for more experienced employees. This is an assumption made by some employers when selecting new employees as suggested in research by Rynes, Orlitzky and Bretz (1997).

Implications from this can be vital for organisational induction processes, recommending them to refine processes and communicate more efficient and tailored safety expectations concerning management and co-workers for different new employee types. But

due to little support from these results, more research is advocated in future before any final conclusions are made.

#### *Safety Communication Frequency*

*Hypothesis 4:* School leavers will ask less safety questions, followed by career transition, then occupational focused employees. Career focused employees asking the least questions.

Results indicated that there was a statistically significant difference between new employee types when perceived job risk and safety risk were controlled for. But upon post hoc analyses only school leaver and occupational focused groups showed a significant difference. Occupational focused employees reported a higher frequency of communicating safety concerns, followed by career transition then career focused employees, with school leavers reporting the least amount of communication concerning safety. These results are partially consistent with the research hypothesise.

This was predicted to differ due to unfamiliar new employees with less experience, understanding less therefore, asking fewer safety questions. This is what the results suggested as school leavers reported asking the least amount of questions. This may be due to them being new to the workplace and holding back communicating safety, or not understanding enough about the environment to communicate about safety. But the predicted order for the remaining groups was not consistent with the hypotheses. Future research may investigate in why employees may or may not communicate to other co-workers or their managers in the workplace, as this can be very important for avoiding accidents and safety incidents.

#### *Accident/Injury Frequency*

*Hypothesis 5:* School leavers will have a higher accident/injury frequency, followed by career transition, then occupational focused employees. Career focused employees will have the least number of incidents.

This hypothesis concerned accident/ injury frequency for employees in their current job. Results showed that there was a statistically significant difference between new employee types, but upon further post hoc analyses no significant differences were found. Occupational focused employees had the highest frequency followed by school leavers, then career focused employees. The least accident/injuries were report by career transition employees. These results are inconsistent with the hypothesis for this component.

These findings are unexpected, especially for occupational focused employees to have the highest average number of accidents/injuries. This may be an inaccurate hypothesis prediction or could be due to other confounding factors such as total tenure and the industry worked in, which may have influenced the data and results. But this is consistent with literature in the introduction as conflicting results have been found in this area in previous research, especially the theory of individuals developing a false consciousness for safety in research by Tadesse and Israel (2016) which may explain this unexpected finding. Therefore, more research into accident and injury frequency is recommended before any conclusions can be made in this area.

In terms of the association between accident/injury frequency and the other predictors, some relevant findings were found. Further investigation into this, in the form of a correlation analysis presented in Table 4, suggested that speed of familiarisation and perceived job risk and safety risk are significantly associated with accident/injury frequency, when other time associated variables are controlled for. Therefore, this suggests that these variables are predictive of accident/injury frequencies. This also helps support this association between new employee types and safety outcomes in the workplace, as those who take longer to familiarise themselves, those who perceive their job as riskier, and those who work in a riskier job, are more likely to have more accidents. This is consistent with research from Butani (1988), suggesting that those with less experience are more at risk of injury compared

to those with many years of experience, as the variables associated with higher accident and injury frequency are also associated with less experienced new employee types.

### ***Practical Application and Implications***

Due to some of these hypotheses being partially supported, there is evidence that these employee types do differ to some extent. Although these hypotheses are not fully supported, implications can still be taken from this research to help inform organisations of the differences that may be present when hiring new employees. Implications have already been mentioned in this discussion for each of the hypotheses, but in this section general applications from this research are discussed. This is mainly around induction processes but other implications and applications are also suggested in the following.

#### ***Induction***

To reiterate how these results may be of use, research into safety outcomes and efficiency of induction training for new employees that is commonly discussed throughout literature is presented. In a study of Canadian employees conducted by Smith and Mustard (2007), only 1 in 5 employees had received safety training with their current employer in their first year of tenure. Bryne (2012) discusses the importance of safety induction programs and how these can be used to introduce an organisation's safety performance and culture. Therefore, safety induction for new employees can be very important for introducing safety guidelines and generating realistic safety expectations in new employees.

Ryan (1989) reported how safety induction training for new employees is important for making sure employees stay in organisations, and are trained adequately in their positions. In a study by Stuart and Englund (2015) they aimed to increase new employee performance by targeting the lack of experience, which can increase stress and inhibit performance. They conducted specific training to target this inexperience and found that these participants felt more prepared for work and gained more knowledge for their job role. This again highlights

the importance of assessing new employees with different experiences and providing adequate training for their skill level. This training can be either safety specific or just the correct procedures used in a workplace to ensure safe behaviour.

Snell (2006) discussed how induction can be an efficient process to introduce employees to an organisation, avoiding costly and time consuming expenses. She mentions how this can safely introduce workplace processes and equipment as well as people when coming into an organisation, increasing the positive effect of contribution to an organisation. Hendricks and Louw-Potgieter (2012) reviewed the extent to which intended outcomes from induction are gained from training processes. They concluded that intended outcomes were poorly gained, suggesting improving induction training programs to be specific and tailored for the employee and job ability. This was also found when Wesson and Gogus (2005) considered different methods of induction socialization processes and how these can differ provisional to the type of new employee and their job level. Thus, if these programs are 'tailored' to the type of new employee, this may increase this efficiency and reduce the risk of wasting time and money and providing safer organisational introduction. In research by Miles, Kellett and Leinster (2015), new trainee doctors felt induction was insufficient, for example, their knowledge of organisational processes and on the job specific information was limited. They compared this to new employees who were given more specific information regarding this. It was reported that this was much more efficient. This may mean that they have less fear and anxiety when it comes to performing in their job (Mestre, Stainer and Stainer, 1997), which can help reduce the risk of unsafe behaviour and incidents occurring. Lashley and Best (2002) reported that well planned induction programs should begin prior to employees starting work and should continue a few months into employment, therefore they can learn and not be overloaded with knowledge before beginning a job. This provides a structured induction program, helping these new employees adapt to their new job.

Milligan, Margaryan and Littlejohn (2013) reported that in some cases, school leavers and more experienced workers (this includes career transition, career focused and occupational focused employees) use common learning approaches when coming into a new organisation. In this analysis, the school leaver group received more support upon induction, whereas more experienced workers did not have the same support from the organisation. What is different in this research is that these 'non-school leaver employees' are lumped together, but as we can see from this study, there are more considerations when it comes to looking at the type of new employee. Again, different new employee types may help with this as this can create more awareness for employers and recruitment processes to increase efficiency of safety induction training.

The information explored, concerning these new employees starting a new job, can be informative for recruitment processes and induction training in organisations. A simple question, determining what category these employees fit into, can give a more thorough idea as to what level of training new employees may need. This can allow putting some new employees through additional training which may be necessary, increasing the efficiency of induction training upon employment. New employees have been determined as a problem area in the literature, therefore, targeting this population and increasing this efficiency of training may help to reduce accident and injury rates in this population. This can help target education and awareness of these new employees and the type of previous experience they have had. This can also help manage their expectations about health and safety in workplaces. This research aligns with the literature, as providing more specific training for new employees by determining the type of new employee by their experience and expectations, can provide information for the design of these induction programs. This can increase the efficiency of this training, reducing time and money, but most importantly accident and injury rates in the workplace.



*Other Implications*

Due to shifts in job security and the changing of jobs becoming more common, awareness of generational changes may be beneficial when hiring younger and less experienced new employees. Knowing that there may be differences in the types of new employee upon hiring can be an important consideration as although individuals may have experience, greater cumulative job tenure and multiple job roles do not necessarily indicate experience gained as mentioned in the introduction from Burt (2015). Also, as suggested by Moore, Grunberg and Krause (2015) various generations can have different expectations regarding workplace safety, therefore, awareness and understanding of this is also important.

The differences found in new employee types may be an important consideration if there was a need to hire someone very quick and have them settle in and take over a very important job role as the new employee type classifications can help select more experienced employees with more realistic expectations. This research may also help employers be more aware of the meaning of experience when it comes to hiring new employees, also how expectation accuracy can range for individuals. Therefore, classifying new employee types upon recruitment and induction as recommended by Burt (2015) can be beneficial for both the individual and the organisation. This can also assist selection and inform the process of the safety rating upon induction as recommended by Burt and Stevenson (2009) and Rowlett, Amara, Schaefer and Jenks (2015). For example, the use of safety vests can be used to indicate to existing employees who new employees are. This can be gauged from the new employee type and their experience, avoiding generalising and slowing down more experienced new employees transitioning into the workplace. Also, upon inducting new employees it may be beneficial for the organisation to go over their expectations of manager and co-workers. This can be important for the psychological contract as this unofficial agreement of expectations (Payne, Culbertson, Boswell & Barger 2008; Rousseau, 1995) is

important for employee trust, but also crucial for safety behaviour in the workplace, therefore expectation setting has important implications for new employees which can be adapted for the classification of new employee.

These implications and applications concerning new employee types classification may contribute to the reduction of injury occurrences and statistics. Especially new employee statistics and occupational injuries, harnessing improved safety behaviour in individuals.

### ***Limitations***

A limitation of this research concerns the content of the measures for the overall measure of employee type. The five measures give us an idea of what may be different when it comes to new employee types, but there may be other predictor variables associated with new employee types and how they differ. Therefore, if different predictor variables are used, the support for these differences between these new employee types may differ. Also, the interpretation of the differences between the new employee types is limited to those predictors used in this research.

Another limitation of this research concerns the type of new employee and the job and industry they work in. Although this was taken into consideration as a control measure in the general questions when data was gathered, this may have had an impact on the 5 variables used to test differences between these new employee types. Research by Chari and Rele (2008) discussed how more complex and senior jobs may take more than just simple induction training and learning processes, involving quite an intense induction process upon changing jobs. This can impact the speed that these employees become familiar in their job, no matter what type of new employee they are, but generally due to the complexity and steep step up into this new role. This may also be influenced by the time recruiters and induction staff spent with the new employee as well as knowledge passed on and support provided.

This again supports using more, and possibly more specific, predictor variables to determine differences between these new employee types.

Self-reported data is a common limitation throughout research, which was used in this studies method. This can sometimes include false or inaccurate reporting from individuals, but in some cases this may have been beneficial as individuals may provide a more honest view point, rather than someone else interpreting it. Accuracy of recollection is another factor that may limit these findings as some questions asked participants to recall information from months or years earlier. The sample sizes were not very large, and the group samples were not equal, which may have influenced the effect size and overall reliability of the study.

### ***Strengths***

This research used a wide range of participants in various jobs, not limiting this to a single industry or job role. Therefore, when applying and generalising these findings, this may be more valid or relatable as it is not generalising from a specific group of people in a workplace to other employees in different jobs or industries.

This survey was voluntary; therefore, participants could provide their own responses if they wanted to. The survey was also confidential which may have helped reduce response bias, minimising distortion in responses due to social desirability. Scales were randomly ordered to avoid common method variance, which can inflate or deflate ratings, (Craighead, Ketchen, Dunn & Hult, 2011).

Using a survey method can provide more structure, helping with comparison between responses, and may be used again for comparison in future with other research (Rashid & Jabar, 2016). This method also allowed a large number of surveys to be distributed across New Zealand, therefore this research is not limited to one geographic location.

### ***Future Research***

Future research around new employee types may include the addition of more variables to determine if they support differences between these groups as mentioned in the limitations. More support for the differences between new employee types, using more predictor variables, may also help to focus in on areas for training in induction programs for new employees.

Longitudinal measures would provide more sound evidence for differences between new employee types, measuring variables before and after recruitment, then following up these measurements after a certain period. Including variables that determine past and present job similarity may also be another factor to consider in this analysis.

### ***Conclusion***

If school leavers are enforced with rapid, complex safety messages when they have had little exposure to work environments, they may take longer to familiarise, talk less about safety, underestimate job risk and have less accurate expectations than more experienced new employees, therefore, they may need more thorough safety training. Thus, a reduction in the number of accidents is possible if this level of training can be determined using the type of new employee coming into an organisation and adjusting it depending on their work history. Overall, maximising workplace safety and educating individuals using new employee type classifications, may help minimise workplace injuries. As the foundations of organisational structures have changed over the years, so do the ever-concerning safety aspects of these organisations. Thus, ongoing studies and research into safety of employees is necessary to keep up with this organisational shift. This research into new employees attempts to add to this literature, although the results are somewhat mixed, awareness of the differences in experience and safety expectations of new employees should be present in all employers.

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## Appendix A

Applied Psychology  
Telephone: 0278173136  
Email: [jess.drysdale@pg.canterbury.ac.nz](mailto:jess.drysdale@pg.canterbury.ac.nz)  
June 1, 2017



## **The Effect of New Employee Expectations on Early Tenure Safety Information Sheet for Participants**

Hello my name is Jess Drysdale, and I am conducting research involving workplace safety, under the supervision of Professor Chris Burt at the University of Canterbury.

If you choose to take part in this study, your involvement will be to complete this survey, which should take approximately 20 minutes. All you require is a pen to indicate your answers. The survey then can be sealed in the prepaid envelope and returned to the University.

Participation is voluntary and confidential, therefore please do not put your name on this survey. Please complete the consent form attached to the survey. Once these forms have been returned to the University, they will be stored until the 1<sup>st</sup> of September 2017. If you wish to withdraw your participation from this study you can contact the research team. After this withdrawal date your consent form will be removed from your survey and it will not be possible to remove your data.

The results of this project may be published, however the data gathered in this investigation is strictly confidential. Only the research team will have access to your response, which will be locked away and all electronic information will be password protected. Following the completion of this research, all data will be securely stored at the University of Canterbury for the next 5 years, then destroyed. The results will be published in a thesis, a public document, that will be available through the UC Library.

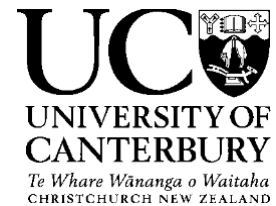
Please indicate on the consent form, if you would like to receive a copy of the summary of project results.

This project is being carried out, as required for a Master's Thesis by Jess Drysdale, under the supervision of Chris Burt, who can be contacted at [christopher.burt@canterbury.ac.nz](mailto:christopher.burt@canterbury.ac.nz). He will be pleased to discuss any concerns you may have about participation in the project.

This project has been approved by the University of Canterbury Human Ethics Committee. Participants should address any complaints to The Chair, Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch ([human-ethics@canterbury.ac.nz](mailto:human-ethics@canterbury.ac.nz)).

There is also an option to win one of four \$100 Countdown vouchers in a prize draw. If you wish to enter this draw please indicate this on the enclosed consent form. This information will then be safely stored, then discarded once the winners have been notified by email in December 2017.

Thank you for your time,  
Jess Drysdale



Applied Psychology  
Telephone: 0278173136  
Email: [jess.drysdale@pg.canterbury.ac.nz](mailto:jess.drysdale@pg.canterbury.ac.nz)  
June 1, 2017

### **The Effect of New Employee Expectations on Early Tenure Safety Consent Form for Participants**

- ☐ I understand the explanation of this project from the information sheet, and I understand that I can contact the researchers to ask questions.
- ☐ I understand what is required of me if I agree to take part in this research.
- ☐ I understand that participation is voluntary, and I may withdraw at any time before the final withdrawal date without penalty.
- ☐ I understand that any information or opinions I provide will be kept confidential. Any published or reported results will not identify participants. I understand that a thesis is a public document and will be available through the UC Library.
- ☐ I understand that all data collected for the study will be kept in locked and secure facilities. Password protected electronic information will be destroyed after five years.
- ☐ I understand the risks associated with taking part and how they will be managed.
- ☐ I understand that I can contact the researcher Jess Drysdale (027 817 3136) or supervisor Chris Burt (03 369 4431) for further information. If I have any complaints, I can contact the Chair of the University of Canterbury Human Ethics Committee, Private Bag 4800, Christchurch ([human-ethics@canterbury.ac.nz](mailto:human-ethics@canterbury.ac.nz))
- ☐ I would like a summary of project results.
- ☐ I would like to enter the prize draw.
- ☐ By signing below, I agree to participate in this research.

Name: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: \_\_\_\_\_

Email address: \_\_\_\_\_

Please enclose this consent form with the completed survey in the envelope, and return it to the University of Canterbury in the prepaid envelope. Please keep the information sheet.

Jess Drysdale

### Introduction

This survey asks questions about you, your job and your behaviour at work.

How to complete the survey:

- Read each question carefully, and then answer by giving your first reaction.
- Please answer all of the questions.
- The usefulness of this survey depends upon the honesty with which you answer the questions.
- Once completed, place the survey in the envelope provided, seal it and please return to the pre-printed address.



### General Questions

1. Age: \_\_\_\_\_
2. How long have you worked in your current job for? years \_\_\_\_\_ and months \_\_\_\_\_?
3. How many different organisations have you worked for? \_\_\_\_\_
4. In total how many different jobs have you had within these organisations? \_\_\_\_\_
5. In total how long have you worked for ? years \_\_\_\_\_ and months \_\_\_\_\_?
6. What is your current job title? \_\_\_\_\_
7. What industry do you currently work for? \_\_\_\_\_
8. How many co-workers (people you work with each day) do you have? \_\_\_\_\_
9. Please tick the category which **best describes you** when you started your current job?
  - ☐ **School or University leaver:** Worked in a part time job during school or University but not in a full time job (or no job), therefore very little or no workplace experience.
  - ☐ **Career Transition:** Previous work experience in a full time job, but working for a different industry and in a different job. (e.g. Previously worked in a retail store serving customers, now working as a farmer on a farm.)
  - ☐ **Occupational Focused:** Previous work experience in the same job, but in a different industry.  
(e.g. Worked in a full time job previously as a receptionist for meat works and then transitioned to another receptionist job in a law firm.)
  - ☐ **Career Focused:** Previous work experience in the same job and industry, but for a different organisation/company. (e.g. Worked full time as a Pharmacist in a Pharmacy but transitioned to work for another Pharmaceutical organisation.)
  - ☐ **Other,** please specify: \_\_\_\_\_

The next three questions refer only to accidents or incidents you have been involved in at work, **in your current job**. For the following please indicate:

- How many near miss incidents or accidents have you had, that could have resulted in an injury to yourself?

---

- How many minor injuries have you had, that have required medical attention (e.g. first aid treatment or doctors visit)?

---

- How many injuries have you had, that required you to take time off work?

---

For the items below, please indicate the time in weeks that best represents how long it took you to familiarise yourself with the following areas in **your current job**.

It took me \_\_\_\_\_ weeks to become familiar with the equipment which my job uses.

Tick here if your job does not involve the use of equipment ☐

It took me \_\_\_\_\_ weeks to become familiar with my work environment.

It took me \_\_\_\_\_ weeks to become familiar with my jobs work routine.

It took me \_\_\_\_\_ weeks to become familiar with the specific workplace procedures which I need to follow.

Please indicate the general **safety risk associated with your current job** by circling a number on this 100 point scale.

**Not At all Risky**    0.....10.....20.....30.....40.....50.....60.....70.....80.....90.....100    **Extremely Risky**

Listed below are words and phrases which could be used to describe how you feel about your current job. . For each of these words, please circle the number that indicates the extent to which you disagree or agree that these apply to your **current job**. (1 = strongly disagree - 5 = strongly agree).

	Strongly disagree	Disagree	Neither agree/disagree	Agree	Strongly agree
Dangerous	1	2	3	4	5
Safe	1	2	3	4	5
Hazardous	1	2	3	4	5
Risky	1	2	3	4	5
Unhealthy	1	2	3	4	5
Could get hurt easily	1	2	3	4	5
Unsafe	1	2	3	4	5
Fear for health	1	2	3	4	5
Chance of death	1	2	3	4	5
Scary	1	2	3	4	5

Please refer to your **current job** when considering the following statements. Indicate to what extent you agree or disagree about safety communication.

	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
I frequently communicate about safety issues in my workplace	1	2	3	4	5
I discuss concerns about safety issues with management	1	2	3	4	5
There is sufficient opportunity to discuss safety issues in meetings	1	2	3	4	5
I feel there is open communication about safety issues within my workplace	1	2	3	4	5
I am regularly consulted about workplace health and safety issues	1	2	3	4	5
I promote the safety program within the organization	1	2	3	4	5
I put in extra effort to improve the safety of the workplace	1	2	3	4	5
I voluntarily carry out tasks or activities that help to improve workplace health and safety	1	2	3	4	5

Listed below are some expectations you may have had BEFORE you started your current job. If you didn't have any expectation for the options below, please tick the no expectation box. If you did have an expectation – please indicate the degree to which it has been met using the 7 point scale where 1 = Not Met and 7 = Completely Met.

	No Expectation	Not Met				Somewhat Met			Completely Met
Workers will discuss changes that could improve safety	<input type="checkbox"/>	1	2	3	4	5	6	7	
Workers will give each other safety instructions	<input type="checkbox"/>	1	2	3	4	5	6	7	
Workers will discuss past accidents or near misses to avoid further incidents	<input type="checkbox"/>	1	2	3	4	5	6	7	
Workers will remind each other of the need to follow safety regulations	<input type="checkbox"/>	1	2	3	4	5	6	7	
Workers will point out hazards to co-workers	<input type="checkbox"/>	1	2	3	4	5	6	7	
Workers will notify management of hazards	<input type="checkbox"/>	1	2	3	4	5	6	7	
Workers will report accidents and near misses to management	<input type="checkbox"/>	1	2	3	4	5	6	7	
Members of my workplace will help me to become familiar with equipment used	<input type="checkbox"/>	1	2	3	4	5	6	7	
Members of my workplace will help to familiarize me with the physical environment where I work	<input type="checkbox"/>	1	2	3	4	5	6	7	
My supervisor will watch over me to ensure my safety	<input type="checkbox"/>	1	2	3	4	5	6	7	
Management will be quick to respond to the safety concerns of employees	<input type="checkbox"/>	1	2	3	4	5	6	7	
Management will be actively involved in safety programmes	<input type="checkbox"/>	1	2	3	4	5	6	7	
Management will take a proactive approach to safety	<input type="checkbox"/>	1	2	3	4	5	6	7	

Listed below are some expectations you may have had BEFORE you started your current job. If you didn't have any expectation for the options below, please tick the no expectation box. If you did have an expectation – please indicate the degree to which it has been met using the 7 point scale where 1 = Not Met and 7 = Completely Met.

	No Expectation	Not Met				Somewhat Met			Completely Met
Management will make sure that work demands do not compromise safety	<input type="checkbox"/>	1	2	3	4	5	6	7	
Management will ensure that employees can attend safety training sessions	<input type="checkbox"/>	1	2	3	4	5	6	7	
Management will inform employees about new safety rules	<input type="checkbox"/>	1	2	3	4	5	6	7	
Management will communicate the organisation's safety objectives to all employees	<input type="checkbox"/>	1	2	3	4	5	6	7	
Management will set a good example for safety behaviour	<input type="checkbox"/>	1	2	3	4	5	6	7	
Management will carry out regular safety inspections	<input type="checkbox"/>	1	2	3	4	5	6	7	
Co-workers will warn each other when their actions are unsafe	<input type="checkbox"/>	1	2	3	4	5	6	7	
Co-workers will immediately remove hazards if possible	<input type="checkbox"/>	1	2	3	4	5	6	7	
Members of my workplace will familiarize me with the safety procedures used when an accident occurs	<input type="checkbox"/>	1	2	3	4	5	6	7	
Management will regularly update safety documentation	<input type="checkbox"/>	1	2	3	4	5	6	7	
Management will supply enough resources to get the job done safely	<input type="checkbox"/>	1	2	3	4	5	6	7	
Management will conduct regular safety training with all employees	<input type="checkbox"/>	1	2	3	4	5	6	7	

Thank you for participating

## Appendix B

Applied Psychology  
Telephone: 0278173136  
Email: [jess.drysdale@pg.canterbury.ac.nz](mailto:jess.drysdale@pg.canterbury.ac.nz)  
June, 2017

**The Effect of New Employee Expectations on Early Tenure Safety**

Hello my name is Jess Drysdale, and I am conducting research involving workplace safety, under the supervision of Professor Chris Burt at the University of Canterbury.

I am currently looking for participants to survey for this research, and wish to sample employees in your organisation. The sample of participants targets full-time employees. If employees choose to participate, the survey takes approximately 20 minutes, and can be returned in the provided envelope to the University of Canterbury. There is also an optional prize draw for those who complete the survey.

It is optional for employees to participate in this research. Organisations will not be named, nor will any data collected from participants be identifiable to the organisation.

A copy of the information sheet, consent form and the survey can be sent through if you are interested. This allows you to view these before you decide if you want your employees to participate in this research. A summary of results, which may be of interest to your organisation, can be sent through if you wish to review these.

Please, let me know if you wish for your employees to be given the option to complete this research, and approximately how many surveys may be needed for these new employees to fill out. I can then send the surveys to the organisation for them to complete.

This project is being carried out, as required for a Master's Thesis by Jess Drysdale, under the supervision of Chris Burt, who can be contacted at [christopher.burt@canterbury.ac.nz](mailto:christopher.burt@canterbury.ac.nz). He will be pleased to discuss any concerns you may have about participation in the project.

This project has been reviewed and approved by the University of Canterbury Human Ethics Committee, and participants should address any complaints to The Chair, Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch ([human-ethics@canterbury.ac.nz](mailto:human-ethics@canterbury.ac.nz)).

Thank you for your time,

Jess Drysdale